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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,985	11/30/2000	Ian M. Williams	SGI 15-4-838.00	6290

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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
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2672

12

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/727,985

Applicant(s)

WILLIAMS, IAN M.

Examiner

Motilewa A. Good-Johnson

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/29/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 and 20-25 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to the following communications: Application, filed on 11/30/2000; IDS, paper #7, filed on 04/15/2002; Amendment A, filed 06/12/2003; Amendment B, filed 12/29/2004

This action is made non-final.

2. Claims 1-25 are pending in this application.

3. The present title of this application is "Texture Generating Apparatus for Dynamic Interference Checking" (as originally filed).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadh et al., U.S. Patent Number 6,629,065, "Method and Apparatus for Rapid Computer-Aided Design of Objects in Virtual Reality and other Environments", class 703/1, 09/30/2003, filed 09/30/1999 in view of Stegmann et al., U.S. Patent Number 6,415,050, "Method for Displaying an Object Design", class 382/154, 07/02/2002, filed 09/02/1997.

As per independent claim 1, a texture generating apparatus, configured in a CAD adapted computer graphic system, adapted to provide proximity analysis of objects . . . comprising: a processing portion adapted to perform calculations of the proximity analysis; (Gadh discloses proximity intersection checks performed during processor idle time, col. 10, lines 1-20, and further discloses intersection checks of the representation of the computer-aided design intent graph and the shape modeling graph, col. 10, 32-67)

However, it is noted Gadh fails to disclose a texture coordinates generator portion coupled to said texture generating apparatus adapted to provide coordinates and a rendering portion coupled to said texture generating apparatus adapted to provide renderability of the texture.

Stegmann discloses design image of a 3D CAD model which uses design data with attributes such as color, texture and material properties, i.e. texture generating apparatus, col. 5, lines 10-22.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a texture attributes including coordinates generation and rendering portion of the texture to provide renderability, because Gadh discloses in the proximity detection using a design intent graph and a shape modeling graph, col. 10, lines 22-67, and Stegmann discloses design data to include attributes such as texture properties.

With respect to dependent claim 2, processing portion is adapted to operate independently of, but in conjunction with, the CAD adapted computer graphic system. (Gadh discloses using the representation in a CAD system, col. 39, lines 16-30)

With respect to dependent claim 3, objects in a design comprise a first object and a second object. (Gadh discloses in figure 58A)

With respect to dependent claims 4-6, the first object is a component of a design and the second object is a defined plane. (Gadh discloses checks of an object design with a element and orthogonal planes on the elements bounding box, col. 24, lines 45-52)

With respect to dependent claim 7, the texture generator is adapted to access a proximity value characterizing a spatial relationship between objects in a design.

However, it is noted that Gadh fails to disclose texture generator adapted to access a proximity value.

Stegmann discloses design data including attributes such as texture.

Gadh discloses proximity checks and categorizing the intersection checked based on distance of the shape elements, col. 30, lines 1-20.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the interference checking of Gadh checking for texture, because texture is an attribute of a design element of computer graphics applications and a CAD system is a computer graphics application.

As per independent claim 13, it is rejected based upon similar rational as above independent claim 1.

With respect to dependent claims 14 and 15, texture of said texture based proximity analysis is user definable; user scaleable.

However, it is noted that Gadh fails to disclose texture adapted to access a proximity analysis.

Stegmann discloses design data including attributes such as texture.

Gadh discloses soft proximity links, which are used in proximity analysis and can be over-ridden by the designer during editing, col. 31, lines 1-8.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the interference checking of Gadh checking for texture, because texture is an attribute of a design element of computer graphics applications and a CAD system is a computer graphics application.

With respect to dependent claim 16, first object is comprising a component of a design, said component of a design relative to said second object. (Gadh discloses intersection operation determining interference between a face of an object and a face of another element, col. 24, lines 50-60)

With respect to dependent claim 17, second object comprises a defined plane . . . any of the six orthogonal planes relative to the first object. (Gadh discloses defining a bounding orthogonal box defined about an element, i.e. an object, and used to detect intersection operations, col. 24, lines 33-60)

With respect to dependent claim 18, plane comprising any of the six orthogonal planes defined as a boundary with regard to the second object. (Gadh discloses defining a bounding orthogonal box defined about an element, i.e. an object, and used to detect intersection operations, col. 24, lines 33-60)

With respect to dependent claim 19, second object comprises a component of a design; said component of a design is relative to said first object. (Gadh discloses intersection operation determining interference between a face of an object and a face of another element, col. 24, lines 50-60)

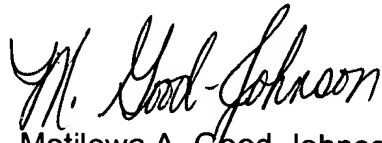
Allowable Subject Matter

6. Claims 8-12 and 20-25 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Motilewa A. Good-Johnson
Examiner
Art Unit 2672